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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jac-Hyup Kim

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EXAMINER

MOREHEAD, JOHN H

ART UNIT

PAPER NUMBER

2622

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/749,417	Applicant(s) KIM, JAE-HYUP	
	Examiner John Morehead	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because fig. 2 element 231 should be **strobo light**, not **AGC**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2622

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 6-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hyodo et al 6952225.

4. Re claim 1, ^{Hyodo teaches} an illumination sensing apparatus (fig. 1) for use in a mobile terminal, comprising: an image sensor (fig. 1 element 14) for scanning an image with reference to each gain of Red, Green and Blue (RGB) (fig. 1 element 26) to generate image data; a control means (fig. 1 element 38) for generating a light-emitting control signal or a light-emitting on/off signal with reference to the image data and the gain; and a light-emitting means (fig. 1 element 46) for adjusting an illumination of an internal light-emitting device or turning on/off the light-emitting device according to the light-emitting control signal or the light-emitting on/off signal (col. 5 lines 46-54, also fig. 2 col. 5 lines 58-67 and col. 6 lines 1-17).

^{Hyodo teaches}
Re claim 2, the illumination sensing apparatus as recited in claim 1, wherein the control means (fig. 1 element 38) includes a main control unit (fig. 1 element 26) for comparing the gain with a magnitude of a luminance component of the image data, and for generating the light-emitting control signal or the light-emitting on/off signal according to the comparative result (col. 5 lines 46-54).

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Hyodo teaches

Re claim 3, [^]the illumination sensing apparatus as recited in claim 1, wherein the light-emitting control signal is a signal for adjusting brightness stepwise according to the gain and the magnitude of the luminance component of the image data (col. 5 lines 46-67 and col. 6 lines 1-2 also fig. 2).

Hyodo teaches

Re claim 6, [^]an illumination sensing method in a mobile terminal, comprising the steps of: a) activating a camera function of the mobile terminal (although Hyodo does not explicitly recite how the camera is activated, it is **inherent** that all cameras have some sort of means (i.e. a switch or operation) to activate the camera); b) scanning an image with reference to each gain of RGB to generate image data, thereby obtaining the image data and the gain (fig. 1 element 26 and 48); c) comparing the gain with a magnitude of a luminance component of the image data (fig. 1 element 26); and d) adjusting a brightness of a light-emitting device according to the comparative result of the gain and the magnitude of the luminance component of the image data (the CPU determines whether or not the flash should be activated based upon the RGB gain values and luminance component, which are all factors in white balancing, fig. 1), and then returning to the step of activating the camera function of the mobile terminal.

Hyodo teaches

Re claim 7, [^]the illumination sensing method as recited in claim 6, wherein in the step d), a reference gain and a reference luminance component are set, and if the luminance component of the image data has a lower value than the reference luminance component while the gain has a higher value than the reference gain, a light-

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emitting control signal is generated for lightening the brightness of the light-emitting device (Although claim limitation is not explicitly stated by Hyodo, it is **inherent** that if the luminance value is high, then the gain of the RGB values are going to be low and vice versa, if the gain of the RGB values are high, then the luminance value is going to be low, furthermore based on the teachings of Hyodo, if the luminance value is low, then the electronic flash will emit light under the control of the CPU, and if the luminance value is above a certain level, then the flash will not emit based upon the low luminance automatic flash mode under the control of the CPU, col. 5 lines 14-18 and 46-54).

Hyodo teaches

Re claim 8, [^]the illumination sensing method as recited in claim 6, wherein in the step d), the reference gain and the reference luminance component are set, and if the luminance component of the image data has a higher value than the reference luminance component while the gain has a lower value than the reference gain, a light-emitting control signal is generated for darkening the brightness of the light-emitting device (claim limitation has already been discussed and rejected, see claim 7).

Hyodo teaches

Re claim 9, [^]the illumination sensing method as recited in claim 6, wherein in the step d), the reference gain and the reference luminance component are set, and if the luminance component of the image data has the lower value than the reference luminance component while the gain has the higher value than the reference gain, a light-emitting on/off signal is generated for turning on the light-emitting device (claim limitation has already been discussed and rejected, see claim 7).

Hyodo teaches

Re claim 10, the illumination sensing method as recited in claim 6, wherein in the step d), the reference gain and the reference luminance component are set, and if the luminance component of the image data has the higher value than the reference luminance component while the gain has the lower value than the reference gain, a light-emitting on/off signal is generated for turning off the light-emitting device (claim limitation has already been discussed and rejected, see claim 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyodo et al US 6952225, in view of Voss et al US 2005/0046739 and in further view of Lee et al US 7158173.

Re claim 4, the illumination sensing apparatus as recited in claim 1, wherein the light-emitting means includes: a strobo light-emitting diode (LED) for performing a strobo on/off operation in a use of a camera module according to the light-emitting on/off signal; and an LCD backlight for adjusting a backlight brightness according to the light-emitting control signal.

Hyodo fails to teach a strobo light-emitting diode (LED) for performing a strobo on/off operation in a use of a camera module according to the light-emitting on/off signal. However, Voss discloses a system using LEDs with an image capturing device, in which the LEDs are formed in a strobe arrangement which will allow the user to control the intensity of light emitted by the LEDs during an image capture process such that the intensity of light emitted by one region of the LEDs is different than intensity of light emitted by another region of the LEDs (Voss, para 0013 also fig. 1 element 101).

Therefore taking the combined teachings of Hyodo and Voss, as a whole, it would have been obvious to one of ordinary skill in the art to combine Hyodo's apparatus for automatic white balance adjustment based upon light source type with Voss's strobe lighting unit to further enhance picture quality when having to activate the flash for supplementing ambient light of a scene (para 0015, It is also noted that Voss teaches a display, fig. 1 element 109 for displaying pictures).

The combined teachings of Hyodo and Voss, as a whole, fail to teach an LCD backlight for adjusting backlight brightness according to the light-emitting control signal. However, Lee discloses a method for determining environmental brightness to control display brightness in mobile communication terminal including camera having automatic gain control function, and method for controlling display brightness using the same (Lee, col. 3 lines 9-14).

Therefore taking the combined teachings of Hyodo and Voss, in further view of Lee, as a whole, it would have been obvious to one of ordinary skill in the art to combine Hyodo apparatus for automatic white balance adjustment based upon light source type and Voss's strobe lighting unit with Lee's method for determining environmental brightness to control display brightness so that based upon the conditions surrounding the camera, the LCD display will adjust according to whether the environment is dark or it is light, if it is dark, the LCD display will be brighter, and if it is light, the LCD display will be less bright (Lee, fig. 1 and fig. 4 col. 4 lines 28-44).

Re claim 5, the combined teachings of Hyodo and Voss, in further view of Lee, as a whole, further disclose the illumination sensing apparatus as recited in claim 3, wherein the light-emitting means includes: a strobo light-emitting diode (LED) for performing the strobo on/off operation in a use of a camera module according to the light-emitting on/off signal; and an LCD backlight for adjusting a backlight brightness

according to the light-emitting control signal (claim limitations has already been discussed and rejected, see claim 4).


Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Morehead whose telephone number is 571-270-1183. The examiner can normally be reached on Monday - Friday (alt) 7:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JM
4/30/07


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SUPERVISORY PATENT EXAMINER